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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/477,570	01/06/2000	DANIEL J. KNABENBAUER	AUS990884US1	9429

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EXAMINER

NGUYEN, KEVIN M

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 04/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/477,570

Applicant(s)

KNABENBAURER, DANIEL J.

Examiner

Kevin M. Nguyen

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 19-23, 25-27, 29 and 45-48 is/are rejected.
- 7) ☒ Claim(s) 5-18, 24, 28, 30-44 and 49 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The amendment filed on 2/4/2002 is entered. The rejections of claims 1-49 are maintained.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, in input image coded, computer, television signal receiver, cable system receiver, satellite receiver, a storage medium, control system pixelizes the input image for 3D display must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrold (US 6,281,861).
5. As to claim 1, Harrold teaches a three dimensional (3D) display device which includes the matrix of the triangles 6, 8, 9 representing three dimensional red, green, blue (RGB) pixels matrix (see col. 5, lines 38-43), the dimensional of triplets of RGB

Art Unit: 2674

pixels have R pixel and B pixel as claimed as a base, an array 20 of pixels arranged as rows and columns, as illustrated in Fig. 8, connected to a controller 25 and a driver circuit 22 for controlling addressing of the pixels (col. 5, lines 46-48). It would have been obvious to a person of ordinary skill in the art to recognize that Harrold discloses as claimed as three dimensional red, green, blue (RGB) pixels array 20 may comprise light-emitting pixels because for the flat CRT, three dimensional red, green, blue (RGB) pixels array 20 may be applied as an electroluminescent device (see col. 6, lines 46-50) because the modular may also be applied in light emitting technology with each picture elements having a light emitting element as claimed as a 3D matrix of light emitting elements (see col. 3, lines 19-21).

6. As to claim 25, Harrold teaches a three dimensional (3D) display device which includes a plurality of matrix of the triangles 6, 8, 9 representing three dimensional red, green, blue (RGB) pixels matrix (see col. 5, lines 38-43), three dimensional red, green, blue (RGB) pixels array 20 may comprise light-emitting pixels because for the flat CRT, three dimensional red, green, blue (RGB) pixels array 20 may be applied as an electroluminescent device (see col. 6, lines 46-50), a plurality three dimensional red, green, blue (RGB) pixels matrix arranged as rows and columns, as illustrated in Fig. 5, connected to a controller 25 and a driver circuit 22 for controlling addressing of the pixels (col. 5, lines 46-48). It would have been obvious to a person of ordinary skill in the art to recognize that Harrold discloses as claimed as three dimensional red, green, blue (RGB) pixels array 20 may comprise light-emitting pixels because for the flat CRT, three dimensional red, green, blue (RGB) pixels array 20 may be applied as an

Art Unit: 2674

electroluminescent device (see col. 6, lines 46-50) because the modular may also be applied in light emitting technology with each picture elements having a light emitting element as claimed as a 3D matrix of light emitting elements (see col. 3, lines 19-21).

7. Claims 1 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrold et al (US 6,023,315) in view of Harrold (US 6,281,861).

8. As to claim 1, Harrold '315 teaches a three dimensional (3D) display device which includes the matrix of the triangles 21, 22, 23 representing three dimensional red, green, blue (RGB) pixels matrix (see col. 5, lines 38-43), the dimensional of triplets of RGB pixels have row electrodes R1, R2 disposed on one substrate and facing zig-zag column electrodes C1, C2 disposed on a facing substrate as claimed as a base (figure 1, col. 4, lines 36-39). Harrold et al '315 fails to teaches a base having electrical circuitry for powering and controlling the three dimensional matrix. However, Harrold '861 teaches an electroluminescent device (ELD) having three dimensional red, green, blue (RGB) pixels arranged as rows and columns, as illustrated in Fig. 8, are controlling and driving by a data ordering circuit 25 and a driver circuit 22 (see figure 9). It would have been obvious to a person of ordinary skill in the art to incorporate the controller 25 and driver circuit 22 taught by Harrold '861 for driving the row electrodes R1, R2 and column electrodes C1, C2 of Harrold '315 in order to control an autostereoscopic three dimensional display because spatial light modulators also include devices which emit light of controllable intensity such as electroluminescent device (col. 1, lines 16-18 of Harrold '861).

9. As to claim 25, Harrold '315 teaches a three dimensional (3D) display device which includes a plurality of matrix of the triangles 21, 22, 23 representing three dimensional red, green, blue (RGB) pixels matrix (see col. 5, lines 38-43). Harrold et al '315 fails to teaches a base having electrical circuitry for powering and controlling the three dimensional matrix. However, Harrold '861 teaches an electroluninescent device (ELD) having three dimensional red, green, blue (RGB) pixels arranged as rows and columns, as illustrated in Fig. 8, are controlling and driving by a data ordering circuit 25 and a driver circuit 22 (see figure 9). It would have been obvious to a person of ordinary skill in the art to incorporate the controller 25 and driver circuit 22 taught by Harrold '861 for driving the row electrodes R1, R2 and column electrodes C1, C2 of Harrold '315 in order to control an autostereoscopic three dimensional display device because spatial light modulators also include devices which emit light of controllable intensity such as electroluminescent device (see col. 1, lines 16-18 of Harrold '861).

10. As to claims 2 and 26, Harrold '815 teaches three dimensional red, green, blue (RGB) pixels array 20 may comprise light-emitting pixels because for the flat CRT, three dimensional red, green, blue (RGB) pixels array 20 may be applied as an electroluminescent device (see col. 6, lines 46-50) because the modular may also be applied in light emitting technology with each picture elements having a light emitting element as claimed as a 3D matrix of light emitting elements (see col. 3, lines 19-21).

11. Claims 3 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrold '315 in view of Jager et al (US 6,288,694).

Art Unit: 2674

12. As to claims 3 and 27, Harrold '315 teaches the dimensional of triplets of RGB pixels have row electrodes R1, R2 disposed on one substrate and facing zig-zag column electrodes C1, C2 disposed on a facing substrate as claimed as a base (figure 1, col. 4, lines 36-39). Therefore, Harrold '315 teaches all of the claimed limitation of claim 2, except for "the red light emitting element, green light emitting element and blue light emitting element are each comprised of a cell having an anode, a cathode, a gas volume and a phosphorus material." However Jager et al teaches a flat CRT having the light emitting surface (anode) having screen coating of phosphor 7 color red, green, blue having electric field created between cathode 1 and grid 3 to extract electron beams from micro tips toward phosphor element 7 of anode 5 (see col. 1, lines 36-41), a strips of phosphor elements 7red (R), 7 green (G), 7 blue (B) are organized in zigzag to the cathode columns. The zigzag shape given to strips 7r, 7b, 7g is such that a screen pixel 30 (col. 8, lines 37-40). It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate a phosphor elements 7r, 7b, 7b zigzag light emitting elements having an anode and a cathode taught by Jager et al for coupling the zigzag of the three dimensional display of Harrold's system because the flat CRT, three dimensional red, green, blue (RGB) pixels array 20 may be applied as an electroluminescent device (see col. 6, lines 46-50) because the modular may also be applied in light emitting technology with each picture elements having a light emitting element as claimed as three dimensional matrix of light emitting elements (see col. 3, lines 19-21).

13. As to claims 4 and 29, Jager et al teaches a sets 7r, 7g, 7b of red, green, blue strips zigzag light emitting element.

14. As to claims 19, 20 and 45, Harrold '861 teaches an electroluninescent device (ELD) having three dimensional red, green, blue (RGB) pixels arranged as rows and columns, as illustrated in Fig. 8, are controlling and driving by a data ordering circuit 25 (control image coded in three dimensional coordinate system as claimed) and a driver circuit 22 (see figure 9).

15. As to claims 21 and 46, Harrold '861 teaches an electroluninescent device (ELD) having three dimensional red, green, blue (RGB) pixels arranged as rows and columns, as illustrated in Fig. 8, are controlling and driving by a data ordering circuit 25 as claimed as control image coded in three dimensional coordinate system (see figure 9).

16. As to claims 22 and 47, Harrold '861 teaches the data ordering circuit 25 is shown as having an input 28, for instance for a standard video signal carrying two field interlaced image data. The circuit 25 may comprise a computer (col. 6, lines 21-24).

17. Claims 23 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrold '816 in view of Harrold '315 in view of Jager et al as applied to claims 21, 19, 1 above, and further in view of Applicant Admitted Prior Art hereinafter AAPA.

18. As to claims 23 and 48, Harrold '816, Harrold '315 and Jager et al teach all of the claimed limitation of claim 1, 19, 21, except for "the control system pixelizes the input image for reproduction by the three dimensional display." However, AAPA teaches the controller 410 pixelizes the input image in three dimensions and sends the pixelized input image to the display interface 430 (see page 16, lines 22-24). It would have been

Art Unit: 2674

obvious to a person of ordinary skill in the art at the time of the invention to incorporate the controller 410 pixelizes the input image for the display interface taught by AAPA for the 3D display of Harrold '816, Harrold '315 and Jager et al's system because this should be well known to those of ordinary skill in the art (see page 16, line 31 to page 17, line 1).

19. Claims 5-18, 24, 28, 30-44 and 49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

20. Applicant's arguments filed 2/4/2002 have been fully considered but they are not persuasive.

21. Applicant's arguments with respect to claims 1-49 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kevin M. Nguyen** whose telephone number is **703-305-6209**. The examiner can normally be reached on M-F (9:00-5:00), with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe** can be reached on **703-305-4709**.

Any response to this action should be mailed to:

Art Unit: 2674

Commissioner of Patents and Trademarks

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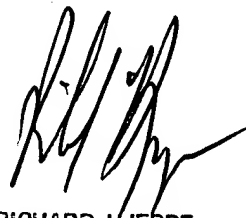
or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Kevin M. Nguyen
Examiner
Art Unit 2674



RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600